

**Indiana Department of Environmental Management
Response to Public Comments
Toll-Tail Dairy LLC
NPDES CAFO Permit Application**

On August 8, 2006, Toll-Tail Dairy, LLC, submitted to the Indiana Department of Environmental Management (IDEM) an application for a National Pollutant Discharge Elimination System, Concentrated Animal Feeding Operation (NPDES CAFO) individual permit. The application is a request to construct and operate a dairy populated with 3,630 mature dairy cattle.

IDEM received public comments concerning this application both in writing and at a public meeting held in LaGrange on November 15, 2006, and the public comment period that followed. Similar comments have been consolidated and paraphrased into one comment for efficiency of response.

The following responses have been prepared by IDEM staff to address the concerns expressed.

1. Comment: What is IDEM's Mission Statement?

Response: The Indiana Department of Environmental Management is dedicated to conserving, protecting, enhancing, restoring and managing Indiana's environment. We strive to fairly but vigorously enforce laws and standards; promulgate regulations consistent with the law and public policy; and promote conservation, pollution prevention, and a healthy and sustainable ecosystem. We are committed to making Indiana a cleaner, healthier place to live.

2. Comment: There is concern over the amount of waste this dairy may produce.

Response: The application provides for storage, management, and land application systems that are appropriately sized to manage the amount of waste to be generated.

3. Comment: There is a concern that land application of manure will contaminate surface waters with increased ammonia and nitrates from manure runoff and impact fish and other wildlife.

Response: Land application of the manure and wastewater in compliance with the permit conditions provides a high level of confidence that the potential of runoff and nutrient loss to surface waters will be minimized. These requirements include:

1. Do not land apply manure when the soil is saturated.
2. Monitor field nutrient levels as well as the manure nutrient content in order to land apply at agronomic rates.
3. Monitor rainfall predictions at least 24 hours in advance and 24 hours after any land application activities.
4. Implementation of a Soil Conservation Practice Plan on land application sites.
5. Maintain required setback distances from site features including field tile inlets, streams, ditches, ponds and wetlands.
6. Monitoring of field tiles that outlet under or bordering the land application sites during and after manure applications.
7. Document compliance with the above by keeping records for at least five years and made available to IDEM.

4. Comment: Concerned with the potential degradation of ground water and wells in the surrounding area.

Response: Protecting the quality of ground water is also a major concern of IDEM. All of the state standards for design of waste storage structures, and the standards for land applying the manure are intended to provide a high level of protection of ground water quality. For this location and proposal, IDEM is requiring the installation of a ground water monitoring system at the production area. This provides the ability to measure the groundwater quality in close proximity to any manure or wastewater storage structures. The proposed manure storage lagoon design also includes a double liner system to provide greater assurance that the potential of leakage has been reduced as much as possible.

5. Comment: Would like consideration only for the most restrictive permit.

Response: IDEM agrees. The permit being issued to Toll-Tail Dairy, LLC is an individual NPDES permit, which is the more restrictive type of permit available for CAFOs.

6. Comment: This operation should be required to operate a wastewater treatment plant like other industries.

Response: Use of manure as a nutrient through land application has long been recognized as an appropriate and environmentally sound way to manage animal manure. Wastewater treatment plants are generally used to treat waste and discharge treated effluent to a receiving stream. CAFOs are not allowed to treat and discharge manure or wastewater to a receiving stream.

7. **Comment:** Can we adequately regulate, inspect, and monitor these facilities under the current rules?

Response: IDEM believes the current rules and regulatory program provide a great deal of oversight when it comes to issues that address protecting water quality. This oversight begins with design and construction requirements then continues with manure handling and land application activities and concludes with self monitoring and record keeping requirements, which are reviewed by our compliance staff during farm inspections. IDEM will provide appropriate oversight to assure the farm complies with the imposed requirements.

8. **Comment:** Did an IDEM permit writer perform a site inspection before drafting the NPDES permit?

Response: An IDEM permit writer is required to visit the site as part of the review process, which took place on December 14, 2006.

9. **Comment:** Wells should be installed beneath the lagoon and surrounding it to monitor leakage.

Response: IDEM is requiring a ground water quality monitoring system through a series of wells around the dairy operation.

10. **Comment:** Manure application by soil injection should be required by the permit.

Response: Requiring injection is not feasible, as part of the manure will be mixed with dewatered sand, which must be surface applied. IDEM prefers to leave the disposal method options available to the farm, unless it is demonstrated that injection is necessary, to prevent water quality violations.

11. **Comment:** Concerned about health effects from pathogens found in manure.

Response: There is minimal risk of pathogen exposure due to normal land application activities. People who work in the barns and are exposed to the manure daily are not known to have a higher rate of infections or illness due to pathogen exposure.

12. **Comment:** There is a concern that groundwater will be depleted by the farm.

Response: Based on an evaluation of the size of the aquifer that will be utilized by the permittee it is not expected that pumping of ground water will adversely affect wells off-site. In addition, there are provisions in state law IC 14-25 to have a ground water emergency declared by the Department of Natural Resources (DNR) if a well is adversely impacting other wells and DNR may require the withdrawal well to restrict or suspend operation.

13. **Comment:** There is concern about the location of proposed ground water monitoring wells.

Response: The wells identified in the application are piezometers, which will be utilized to determine ground water flow direction. The final locations of the ground water monitoring wells are depicted on page 2 of 10, from the plans received by IDEM on January 22, 2007.

14. **Comment:** Concerned that little or no attention was placed on the existing tile drainage system located directly beneath the proposed barn system, and how the discharge from those tiles to water of the state may or may not be adversely impacted by the proposed facility.

Response: IDEM considers the barns to be part of the manure management system that is subject to the permit conditions relative to removal of tiles. This interpretation will be clarified in the appropriate permit conditions relative to removal, sealing, and rerouting of tiles.

15. **Comment:** Concerned that the issue of shallow ground water encroachment into the lagoon is not satisfactorily resolved by IDEM or the applicant. Shallow ground water could cause uplift of the liner.

Response: A perimeter drain around the manure storage lagoon will be installed to address these concerns. An access point for sampling is provided at the northwest corner of the perimeter drain.

16. **Comment:** Concerned that the land ownership maps included in the permit application show land intended for this dairy is owned by Noah Schmucker, not Toll-Tail Dairy, LLC or Art Venema.

Response: The applicant is responsible for assuring they have a legal right to construct on, and utilize the land included in the application. There are a variety of land use agreements that an applicant may enter into with a property owner relative to use of their land. For example, it is not unusual for an applicant to enter into a purchase agreement with a property owner that will not be executed unless a permit is issued.

17. **Comment:** Concerned that land ownership of Toll-Tail Dairy, LLC, included in the application was not registered with the Indiana Secretary of State to do business in the state at the time of application submittal.

Response: On May 4, 2007, IDEM received an updated NOI from Toll-Tail Dairy, LLC, along with supporting documentation that it had registered with the Indiana Secretary of State to do business in Indiana.

18. **Comment:** Concerned with contracting the land application to a party that is not responsible to comply with the permit.

Response: It is IDEM's understanding that the applicant will be contracting with another party to do land application. Depending upon how the contract is written one or both of the parties will be responsible for assuring the manure is applied in accordance with the permit.

19. **Comment:** Concerned that no map is provided that clearly shows the facility and all the intended land application areas, so that adjacent landowners can be notified.

Response: The regulations are written to place restrictions on land application activities regardless of where they are conducted. Consequently, there is no requirement to provide notice to land owners adjacent to a land application area.

20. **Comment:** Concerned that several blueprints provided to IDEM with respect to construction guidelines for the barns were not sealed by a professional engineer.

Response: Each of the drawings referenced in the permit is sealed and signed by "David Gerdeman", a licensed professional engineer in Indiana.

21. **Comment:** Requests that IDEM require the applicant to monitor ground water pollution more than once a year to be sure the wells are constructed so that they will intercept the ground water plume before it leaves the property. In addition IDEM must require the applicant to report contamination of ground water immediately rather than wait for submittal of annual reports.

Response: The facility will be required by IDEM to sample all the ground water monitoring wells semi-annually. All ground water sampling and analysis results shall be submitted to IDEM within sixty (60) days of sampling.

22. **Comment:** There is concern that soil boring data collected at the proposed farm site does not accurately depict the expected elevations of ground water tables.

Response: The facility shall prepare and submit to the Commissioner, along with the ground water quality results, a ground water flow map. If data acquired during operation of the facility indicates that ground water flow directions are other than as anticipated in the ground water monitoring system design, the Commissioner may require additional well(s) at the facility.

23. **Comment:** Approximately, how many acres do the earthen lagoons cover?

Response: The earthen lagoons will cover approximately 10.32 acres.

24. **Comment:** Concerned that the subsurface investigation report and lab tests will not allow the applicant to find liner material that will meet state standards, nor how the liner materials will prevent nitrogen, salts, and pathogens from entering a shallow ground water system that can produce 300 gallons per minute and that is used extensively in the areas surrounding the proposed facility.

Response: The soil permeability requirements must be met regardless if the material is obtained on-site or off-site. Testing of the material throughout construction must be conducted and certified. The facility has agreed to install a ground water monitoring system that will supplement the liner design by providing detection if contamination seeps through the liner.

25. **Comment:** Concerned that the application does not mention the volume of milking parlor wastes expected to be generated at the facility. Also, there is no mention of the collection, transport, storage, and final disposal of milking parlor wastes. There is no obvious plumbing from the milking parlor to the sand pit or to the lagoon.

Response: All drains in the milk parlor go to the sand separator either directly or from the flush alley. All washing agents and liquids, as well as waste milk is included in the waste going to the waste storage structures. Ten and one half gallons per day per cow was used as the volume of all milk parlor wastes.

26. **Comment:** A blueprints shows a possible site location of a leach field east of the milking parlor. What will this be used for?

Response: The leach field is for the septic system for the office, for human waste from fifteen employees, and from showers available for employees.

27. **Comment:** Does IDEM issue a permit for septic systems at industrial sites, or does the Health department? Is there communications between agencies to insure that all waste streams are correctly identified and monitored so that they are correctly collected, treated, and disposed of in a manner consistent with protecting water quality standards?

Response: The Sanitary Engineering Department of the State Department of Health administers the permit program for any septic system not intended for residential housing. There are no overlapping efforts in coordinating the ISDH permitting of a commercial septic system in unison with the IDEM permitting of the farm operation.

28. **Comment:** There is concern that the non-contact cooling water discharge point is not identified on the site design drawings.

Response: IDEM has placed a condition in the permit, which requires the applicant to notify IDEM of the location of the non-contact cooling water discharge point. They must also provide a marker at the location for ease of identification.

29. **Comment:** Several comments were received concerned airborne pollutants, odors, noise and property values.

Response: IDEM is given the authority through legislation and the rules to regulate CAFOs based on water quality concerns. Other concerns relative to odors, traffic, property values, etc. are outside of IDEM's authority to address through the permitting process. Local land use ordinances must be relied upon to address those issues. The US EPA is conducting a two year study of air emissions from animal feeding operations. The study will include what types of pollutants are present and the quantity released. Based on the results, EPA will give a recommendation on any permitting requirements that may be appropriate to address those emissions.

30. **Comment:** The Indiana NRCS Standard #313 titled "Waste Storage Structures" states there must be a 2' separation between the bottom of the lagoon and the high seasonal water table. Since the high seasonal water table has not yet been established for the site, it seems premature to state where the bottom of the lagoon will be located.

Response: A perimeter drain with sampling point will be constructed around the manure storage pond to assure a minimum 2' separation.

31. **Comment:** Indiana NRCS Standard #313 states that the 2' of freeboard is in addition to the volume set aside for the 25 year – 24 hour storm event. Applicant shows the storm event stored within the 2' of freeboard and there is no mention regarding new federal requirements for storm events.

Response: The manure storage lagoon's storage capacity is approximately 348 days, and exceeds IDEM's requirement of 180 days. As per the NRCS Conservation Practice Standard #313, lagoon design volume below the freeboard must take into account the 25 year-24 hour rain event runoff from the drainage area directed to the lagoon. The rainfall on the lagoon surface can be collected within the freeboard space if necessary.

32. **Comment:** Why are there are other things recommended to be considered by the NRCS Standard #313 that are not required to be followed by IDEM?

Response: IDEM's guidance on design standards refer to NRCS standards to assure structural integrity and the ability to meet the liner permeability standard. Other contents of the standard are not considered necessary to be incorporated into the design.

33. Comment: Has existing tile drainage lines at the proposed operation location been adequately addressed?

Response: Tiles beneath the proposed barns and/or storage structures will be rerouted or plugged as noted in the approved design drawings.

34. Comment: What will the earthen lagoon be constructed of and does it meet design standards?

Response: The earthen lagoon will be constructed of compacted clay layers, followed by a geotextile liner, followed by a 60-mil. HDPE synthetic liner, finally underlain with more compacted clay. The liner does meet the design standards for approval.

35. Comment: The permit does not identify the exact discharge points at this facility including longitude and latitude for seepage from the lagoon, discharge of non-contact cooling water at the undisclosed tile, or the undisclosed discharge points from the secondary containment area north of the lagoon.

Response: NPDES permits for industrial facilities require latitude and longitude locations for discharge pipes releasing effluent to receiving streams. CAFO's have a zero discharge limit. There should be no discharges occurring except from the non-contact cooling water. The permit has been modified to require identification of the point at which non-contact cooling water will be discharged. IDEM has been doing GPS surveys of CAFO locations to include in our database.

36. Comment: The draft permit states "all milking parlor wastewaters will be directed to the storage system." However, the lagoon volume calculations do not include a specific category called milking parlor wastes, nor does the permit application identify the volume of waste, its characterizations, nor its pollution potential to waters of the state.

Response: The dairy operation volume of 42,601,827 gallons (3,630 cows), is for a period of one year, and represents manure production, washwater, and milking parlor wastes. The consultants used 10.5 gallons per day per cow as the volume of all milking parlor wastes.

37. Comment: The permit states "the permittee must ensure that activities associated with the CAFO operation do not cause or contribute to non-attainment of state water quality standard, or to the impairment of designated or existing uses." However, the draft permit does not identify or name what these water quality standards are, nor what the designated or existing uses are and how the permittee will identify all waters of the state. This paragraph in the permit is generic language, and not site specific.

Response: The permit does provide the list of narrative water quality standards. Although generic language is utilized, it is standard in all individual NPDES permits. No individual NPDES permit issued by IDEM identifies the designated uses or impaired status of the receiving stream.

38. Comment: The permit does not contain site-specific information about any of the proposed land to be used for land application, nor any site-specific requirement for crop yield, type of crop, or method of land application that reflects the information submitted by the applicant.

Response: The permit requires that a Soil Conservation Practice Plan (SCPP) be implemented on all manure application sites owned or controlled by the permittee. The plan must be written in accordance with standards to minimize nutrient loss through leaching and runoff. The SCPP will address each field's limiting factors and what measures are needed to achieve the adopted performance standards. These measures are site specific and can include but are not limited to; timing of application (spring vs. fall), method of application (injection vs. surface), rate of application, and the installation of erosion control practices.

39. Comment: There are no land application site identification numbers, no site-specific limitations of setbacks to waters of the state, wetlands, highly erodible land, etc.

Response: The regulations are written in such a way that setbacks and site restrictions apply to all sites and any waiver from the regulations must be obtained on a site specific basis. In order for an application of manure at agronomic rates, a soil test must be done to identify the current level of nutrients from commercial fertilizer or other manure applied to the land. Such existing nutrients must be taken into account in calculating how much manure may be applied.

40. **Comment:** How will the waste be land applied? Will the waste be blended with irrigation water, and if so, how will the ground water be protected from backflow of dairy waste from the center pivot into the wellbore? Will the waste be trucked to the site and then fed to the center pivot with above ground hose, or will there be underground piping placed at each land application site to transfer the dairy waste from the road to the sprinkler system?

Response: IDEM historically has not dictated the method used for manure land application. The NPDES and CFO regulation was established with certain land application performance standards that must be met regardless of the method utilized. The application solicits the method of application, which will be primarily used, but the permit does not limit them to use only one method.

41. **Comment:** The permit states that "liquid or solid manure or process wastewater must not be applied to highly erodible land unless the application to such land is specifically addressed in the Soil Conservation Practices Plan. Why would IDEM issue a permit before this critical plan is developed? Who at the agency is going to review the plan and when?

Response: The key to this regulatory approach is that prior to the initiation of any land application activities, the plan must be written. Since Indiana law provides two years to start construction of an approved farm and four years to complete construction, it could theoretically be four or five years before any manure is applied from that farm. IDEM will have sufficient opportunity to review the plan for completeness.

42. **Comment:** The draft permit states that "land application sites must be inspected to identify any field tile outlets under or immediately bordering the land application site." The applicant made no mention of locations of field tile outlets at any of the proposed land application sites. Who will inspect the land application areas? Why hasn't this been done prior to drafting of the permit? Will the applicant perform the inspection, or will the non-permitted third party do it? How will IDEM gain access to the land application sites to perform their own inspection?

Response: Many fields may be identified as potential land application sites, but not all will be used in the first year of operation. It is important that the field tiles present just prior to land application activities be identified and monitored. It is the permittees responsibility to comply with the permit conditions, whether it is done by the applicant personally, or by a contractor under this applicant's control. IDEM staff have the right to enter any of the applicants property or property used for land application to verify compliance with the regulations and the permit.

43. **Comment:** On page 16 of the draft permit, IDEM identifies a set of site development plans as the "construction" conditions. This is actually a list of blueprints submitted by the applicant to the agency. These are the same plans that do not identify the exact location of discharge of non-contact cooling water, or the exact discharge points from the secondary containment. These are the same plans that state a perimeter drain is optional, and does not account for the milking parlor waste volume. Why would IDEM not elaborate upon the drawings to list those items that must be adhered to, such as seepage rate, separation distance between bottom of lagoon and high seasonal ground water, distance to tile drainage, exact configuration of the lagoon liner system, and other items that are not clear or remain "optional" on the diagrams but are part of the regulation?

Response: The drawings referenced in the permit are approved and specify the liner to be constructed as a re compacted soil composite liner that meets the hydraulic conductivity limitation specified in the regulation. A perimeter tile will be installed below the base of the lagoon.

44. **Comment:** Concern that the same person running the corporation will monitor and control himself. Would like to see monitoring and inspections done in the future from an outside source.

Response: IDEM will conduct inspections of the facility during construction and operation to assure compliance with the regulations and permit. Those inspections will also verify that self-inspections are being conducted by the permittee.

45. **Comment:** Manure should not be applied on frozen ground.

Response: The permit prohibits application of manure to frozen ground unless a soil conservation practice plan is developed and more stringent requirements for land application are followed.

46. Comment: IDEM should test Grassy Lake before the operation goes in to have baseline data.

Response: Testing to establish background levels of pollutants in the river is unnecessary. This permit has an effluent discharge limitation of zero discharge of manure or process wastewater.

47. Comment: Concern for possible contamination of the Pigeon River Fish and Wildlife area.

Response: IDEM has required Toll-Tail Dairy, LLC to include the Pigeon River Fish and Wildlife Area to be included in the operations Emergency Spill Response Plan, as required in Part II D. 2 of the individual permit.

48. Comment: Subsurface investigation is incomplete, because not all well logs have been considered.

Response: IDEM staff have reviewed all of the well logs within one mile of the facility.

49. Comment: Land application of manure should not be done one day before a weekend day or holiday.

Response: The agency does not have a basis in the statutes or regulations to impose such a restriction.

50. Comment: We would like IDEM to put a moratorium on any more permits until hearings can be held to have citizens comment on rules. We are also concerned that the American Medical Association requested a precautionary moratorium on CAFOs.

Response: IDEM does not have authority to place a moratorium on the processing of applications for new or modified confined feeding operations based on the referenced statement by the AMA. The current regulations that apply to CAFOs were subject to public input at various stages of their development. The public has been provided a good opportunity to comment on the permit.

51. Comment: No bonding is required for inevitable clean-ups.

Response: Current regulations do not require bonds for CFO/CAFO's. The agency will hold responsible parties accountable for correcting any problems or contamination they create. During rule making, bonding was not determined to be necessary to impose on CFO/CAFO's due to a lack of incidences where the responsible party was unable to afford corrective measures to address a problem.

52. Comment: How much land will be available for land application?

Response: The original application contains land use agreements, and associated field maps documenting approximately 3,050 acres of farmland available for land application.

53. Comment: How will IDEM enforce application of manure for setbacks, surface water drainage, and tile system drainage?

Response: IDEM will be conducting inspections, which address all applicable requirements, including those affecting land application activities.

54. Comment: Concerned that the emergency plan details are not required to be published until after the permit has been issued.

Response: The Emergency Spill Response Plan must be written prior to the collection and storage of manure.

55. Comment: Per the Clean Water Act, 40 CFR 412.46(a)(3), and IDEM rules, 327 IAC 5-2-8(11) and (12) for NPDES permits, IDEM is required to include bypass and upset language in this permit. Your draft permit for Walnut Grove Dairy, LLC does not contain that language. It is requested that the condition be placed in this permit as it is done for all other NPDES permits.

Response: IDEM has placed the standard language back in the permit. It was believed these two provisions were moot issues given these farms are not allowed to treat and discharge as other NPDES permit holders are allowed. In addition, a significant amount of freeboard space is required for uncovered storages to avoid overflowing.

56. Comment: How is the farm planning to manage dead animal disposal?

Response: IDEM does not require that farms detail their intent on mortality management. The State Board of Animal Health is responsible for regulating dead animal disposal. Disposal must be done by one of the following methods: 1) approved disposal plant; 2) burial with special rules; 3) complete incineration and 4) composting.

- 57. Comment:** Who will be testing household wells to assure area residents that their drinking water is safe to drink? Who will be responsible if contamination occurs in shallow household wells in the area surrounding the dairy.

Response: Residents are encouraged to test the quality of their well water with or without the proposed construction of a confined feeding operation. Many residential features and activities in close proximity to a well, including malfunctioning septic tanks and leach fields, over application of lawn fertilizers/pesticides and improperly discarded household chemicals can be a source of well contamination. IDEM encourage residents to contact their County Health Department to learn the correct procedures to test well water quality. Whoever is found to be responsible for well contamination would be held responsible to correct the problem.

- 58. Comment:** Are Clean Water Act permits issued by IDEM? Will Grassy Lake have water quality testing to determine if any contamination occurs?

Response: NPDES permits for CAFO's are Clean Water Act permits. IDEM is the Clean Water Act permitting authority in Indiana. IDEM's Office of Water Quality, administers Indiana's water quality monitoring program. The 303d water quality assessment program provides a mechanism for IDEM to monitor water bodies within the state on a five year rotational basis. The results of these monitoring events, is an inventory of water quality allowing the identification of waters being affected by current activities. These activities include negative water quality impacts from residential, municipal, industrial, agricultural and recreational areas. Grassy Lake does undergo ongoing water quality monitoring.

- 59. Comment:** Land application of manure should not be done one day before a weekend day or holiday.

Response: The agency does not have a basis in the statutes or regulations to impose such a restriction.